

REMARKS

This Amendment is in response to the Examiner's comments set forth in the Office Action of December 9, 2009. Claims 1, 7, 11, 13 and 16 have been amended. Claims 8 and 10 are cancelled. Claims 1-7, 9, and 11-16 are currently pending in this application.

The Office Action

Claims 1-6, 9 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Srivastava et al. (U.S. 6,466,135).

Claims 7, 8, and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Srivastava (U.S. 6,466,135).

The Subject Claims Patentably Distinguish Over Srivastava

The Examiner asserts that Srivastava discloses a light emitting device (and method for making it) including an LED comprised of a semiconductor material that emits light between 350 and 490 nm and one or more phosphor materials that provide Eu^{2+} - Mn^{2+} energy transfers, include at least Eu^{2+} , and are positioned remote to the LED. Further, the Examiner asserts that product of (incident LED flux) x (excitation cross-section of the phosphor) x (phosphor material decay time) being less than 0.3 is inherent in Srivastava, since it appears that Srivastava utilizes the same materials disclosed in the subject invention. Applicants respectfully traverse.

Particularly, independent claims 1 and 16 have been amended to recite that the claimed light emitting device includes a first phosphor material with a decay time of less than about 3 ms positioned close to the LED and a second phosphor material with a relatively slower decay time positioned relatively further from the LED. This feature was previously found in claims 8 and 10 (now cancelled), which the Examiner rejected, reasoning that Srivastava discloses a device comprising a combination of phosphors, wherein the phosphor layers are formed of various different materials and the phosphor layers may be positioned at various distances from the LED. Based on this teaching, the Examiner asserts that one of ordinary skill in the art would have readily recognized that combining at least two phosphor layers into a device would result in one phosphor layer being placed closer to the LED chip. Additionally, the Examiner asserts that one of ordinary skill would have been able to choose phosphor layers having slower decay times depending on a particular design requirement, making the claims obvious since Srivastava

discloses various materials that could be readily chosen to arrive at the current invention.

Applicant submits that the Examiner's assertion that one of ordinary skill in the art would have been able to arrive at the claimed invention is unfounded and lacks factual support. Rejections based on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. (See MPEP §2143 citing *KSR v. Teleflex, Inc.*, 550 U.S. 398 (2007)). According to *KSR*, the key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reasons why the claimed invention would have been obvious. Applicant respectfully submits that the a mere statement that one skilled in the art "would have been able to choose phosphor layers having slower or faster decay times" does not provide any of the required reasoning as to why the proposed configuration would have been obvious, making the rejection improper.

Additionally, despite the Examiner's assertion that the claimed orientation could have been readily chosen, Applicant submits that it is in fact common practice to design light emitting devices with the exact opposite configuration. For example, US 2009/0278441 teaches of a red phosphor (examples of $\text{Sr}_2\text{Si}_5\text{N}_8:\text{Eu}^{2+}$ and $\text{CaAlSiN}_3:\text{Eu}^{2+}$) that is deposited onto an LED chip while a yellow phosphor (one example of $\text{Y}_3\text{Al}_5\text{O}_{12}:\text{Ce}^{3+}$) is deposited upstream from the LED. Since the decay time of Ce^{3+} is ~50-90 ns and the decay time of Eu^{2+} ranges from 600-2000 ns, 2009/0278441 teaches directly the opposite of what is presently claimed. As another example, US 7,658,866 discusses the placement of organic phosphors further away from the LED chip in order to reduce the incident flux on the organic phosphor layer and minimize any damage. (See col. 26, lines 55-56). Consequently, in this device, there would be an inorganic phosphor (with a decay time ranging from 50 ns-10 ms) closer to the LED and an organic phosphor that can have a decay time of <10 ns that is further away from the LED.

For at least the aforementioned reasons, Applicant respectfully submits that the subject claims patentably distinguish over Srivastava. As such, withdrawal of the rejection and allowance of claims 1-7, 9, and 11-16 is earnestly solicited.

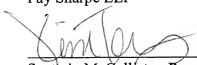
CONCLUSION

For the reasons detailed above, it is respectfully submitted all claims remaining in the application (Claims 1-7, 9, and 11-16) are now in condition for allowance.

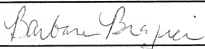
Respectfully submitted,

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Date



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